

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 03042337  
PUBLICATION DATE : 22-02-91

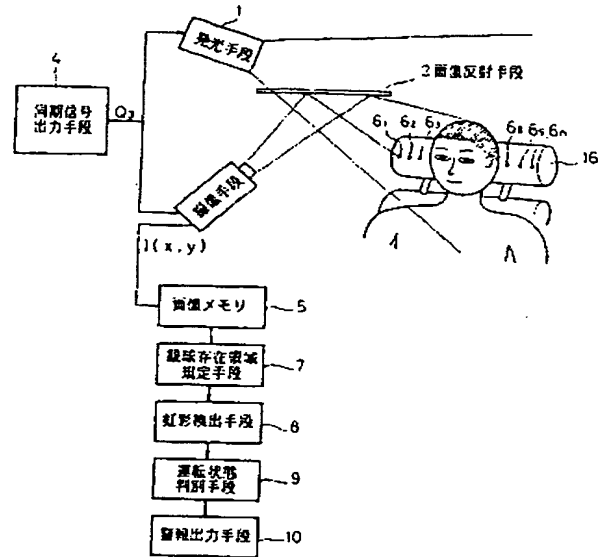
APPLICATION DATE : 10-07-89  
APPLICATION NUMBER : 01177558

APPLICANT : NISSAN MOTOR CO LTD;

INVENTOR : SAITO HIROSHI;

INT.CL. : B60K 28/06 A61B 3/113 A61M 21/00  
G01B 11/00 // G06F 15/62

TITLE : DETECTOR FOR DRIVING CONDITION  
OF VEHICLE DRIVER



ABSTRACT : PURPOSE: To correctly detect abnormal driving conditions such as looking aside or napping of a driver and to properly alarm them by picking up the substantially front of the face of the driver and detecting detecting areas where eye balls are present and portions corresponding to irises, from the picked up image.

CONSTITUTION: Light is emitted by a means 1 so as to irradiate on the face of a driver. The image of the face according to the light emission is reflected by a means 2 and the reflected image is picked up by a means 3. At this time, the light emission is synchronized with the image picking up by a means 4. The picked up image is temporarily stored in a memory 5, while a plurality of reference points  $6_1$  to  $6_n$  are instructed. An area where the eye balls of the driver are present is defined by a means 7 based on the stored image and the respective instructed reference points  $6_1$  to  $6_n$ . The irises of the driver are detected in the defined area by a means 8. Abnormal driving conditions such as looking aside or napping are discriminated by a means 9 based on the detected result of the irises and an alarm is outputted by a means 10 in accordance with a discriminating result.

COPYRIGHT: (C)1991,JPO&Japio